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# **National Center for Statistics and Analysis Information Services Branch**

## **Pre-Installation Customer Satisfaction Survey**

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16. Abstract  The National Center for Statistics and Analysis' (NCSA) Information Services Branch (ISB) required a more effective method of receiving, tracking, and completing requests for data, statistics, and information. To enhance ISB's services, a new customer interface comprising a voice mail system supported by a customized tracking system will be installed. A computer-assisted telephone interview (CATI) survey was conducted to measure customer satisfaction with the current services, as well as provide data on customer profiles and usage patterns. The data showed that customers overwhelmingly rated NCSA services to have been "the same", "somewhat better", or "much better" than expected. However, customer comments indicate an important relationship between this evaluation relative to original expectations. The survey indicates a need to conduct better outreach and public information on the availability of information services; a frequent customer complaint regarded the difficulty to easily find or connect to the right information service or person. The performance factor found to be of greatest importance to customers was the timeliness of receiving their requests, followed by usefulness of information, and ease of placing requests. The customer satisfaction ratings of current services will be used in comparison with ratings to be collected in the post-installation survey. This report provides benchmarks to evaluate the new NCSA voice mail system and the change in services enabled with the use of the Call Management System (CMS) request tracking application. The data also describe ISB's customer profile (such as, type of user, purpose of request) and their usage patterns (such as how customers typically place requests, how they are aware of services).					
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## CONTRIBUTORS

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*Survey questionnaire design and development support and consultation provided by Steve McDonald, Howard Schrag, and Jennifer Sult. Statistical analysis support provided by Paul Chin. Computer-assisted telephone interview (CATI) interface and database developed by Albert Morin.*

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## **I. Introduction**

The National Center for Statistical Analysis (NCSA) Information Service Branch (ISB) required a more effective method of receiving and fulfilling customer requests for data, statistics, and information. The current customer interface consists of a single voice mail box that records unstructured voice mail messages left by customers. NCSA estimates approximately 10,000 requests are received annually from customers who need traffic safety statistics, data, and other related information. Their goal is to enhance and continually improve their customers' satisfaction with its services.

Capital Consulting Corporation (CCC) analyzed the current interfacing method and recommended alternative interfacing methods. A call management system comprised of an automated voice mail system and a information tracking system was accepted by the client as the preferred alternative interfacing method. Prior to the installation of the new call management system, CCC conducted a random sample survey of clients from NCSA's 1994 log of requests. The pre-installation survey data benchmarks the level of customer satisfaction with NCSA services prior to the upcoming change in services and provides quantitative indicators of the type of customers served by NCSA.

This report presents the findings of that survey. The information contained in this report will be used to aid the design of the new interfacing method and to enhance NCSA's approach to providing better services, as well as to be used in the post-installation comparative analysis of customer satisfaction.

## II. Methodology

### A. Survey

A computer-assisted telephone interviewing (CATI) approach was used to conduct the survey of NCSA customers. The survey consisted of 20 core questions: 14 questions were designed to collect quantitative measurements of customer experience with NCSA; six questions, to collect user profile information. Nine additional follow-on questions could have been asked to get clarifications on particular replies. Some of the follow-on questions were open-ended for customer comments. These comments often provided important insight into their rationale for certain evaluation ratings.

The number of questions comprising each interview varied according to the relevance of asking the follow-on questions (e.g., only customers who made requests by telephone were asked questions about the telephone call), otherwise such questions were skipped. At the start of each interview, the customer was told the survey would take approximately seven to 10 minutes to conduct. Actual average (mean) time of all interviews was 11.4 minutes per interview. However, 85.9% of the interviews were within the range of 5.0 to 19.9 minutes per interview; the average (mean) time within this range was 10.9 minutes per interview (see Figure 1).

The survey contained questions regarding how customers made requests, what they requested, and their evaluation of the quality of the service and information received. Other information was collected to compile customer profiles, as well as information need and usage patterns.

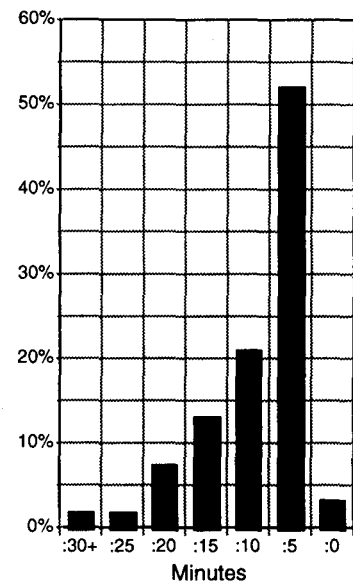
Replies were entered directly into a Paradox database as the telephone interviews were being conducted. Interviewers used interactive screens that prompted them with the appropriate questions to ask and allowed data entry of both coded and open-ended replies. Various computation tools, such as SAS and Quattro Pro, were used to tabulate and to analyze the survey data and to present the findings in this report.

### B. Sampling

Whereas it is estimated that an average of nearly 10,000 requests are fulfilled yearly, NCSA had kept records for only 2,900 requests made in 1994. To estimate data with a 95% confidence interval, from this population within  $\pm 5\%$  of 2,900, the required sample size was determined to be 339. To begin interviewing, a random sample of 400 customers was selected. As the study progressed, additional samples were pulled to accommodate for unusable telephone numbers, refusals to participate, etc.

To conduct the survey interview, the customers were called during business hours. At least three or more attempts were made (at different times of the day and on different days) before a customer was dropped from the sample. Of the customers who had provided their home phone numbers (e.g., answering machine with non-business announcement, other family member at home answers, etc.), attempts were made to call after work hours whenever possible. "Unusable" samples were dropped from the sample and not calculated as part of the sample size, as shown in the section below.

Figure 1.  
Average Interview Time



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### III. Findings

#### A. Response Rate

CCC successfully contacted 449 customers and completed 354 interviews. Ninety-five (95) customers refused to participate in the survey. These customers most often cited “no recollection of making request” as the reason for refusal and others just declined to participate. The survey yielded a 78.84% response rate, as shown in Figure 2, below.

Status	Customers	Description
Completed	354	Interview successfully completed; all data collected.
Refusal	95	Client declined to participate; most often because they could not remember making the request.
Sample Size	449	Response Rate = 78.84%

Figure 2.

Many customers from the sample could not be contacted for reasons, such as disconnected telephone numbers, clients no longer works/lives at given telephone locations, bad telephone numbers (unable to connect), or wrong numbers. Some clients had provided telephone numbers for residences or other “evening” numbers and could not be included in the sample. As can be seen in Figure 3 (below), a large number of customers were dropped from the survey. Extensive re-sampling from the NCSA log of customer requests was required to ensure a valid sample size.

Drop Reason	Customers	Description
No Access	280	Disconnected line, client no longer worked at same location, wrong phone number, etc.
>3 Attempts	250	3 or more attempts without contact were made; most often telephones were answered exclusively by voice mail systems with no opportunity to talk to client.
Residential	81	Residential and evening numbers unable to contact.
Total	611	Dropped

Survey Total	1060	Sample size (449) + dropped (611).
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Figure 3.

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## B. Preface to Data

The sampling of customers shows that NCSA's ability to serve its customers met or exceeded customers' expectations. The sections below provide the data frequencies for each survey question for which quantitative measurements were collected. Although the survey's empirical measurements consistently show that the customers' evaluation of services are generally favorable, comments solicited with open-ended questions provide meaningful insight that could not be readily understood from quantitative data alone.

The customer comments indicate several factors which positively--and negatively--affected their satisfaction with NCSA services. For example, whereas many customers responded that NCSA services were "better than [their] expectations," the approval was a relative compliment in some cases because their original "expectations" for government-provided services were very low. Of all customers interviewed, 8.5% specifically stated their low expectations of government-provided services.<sup>1</sup> (*Endnotes are provided on page 15.*) NCSA was able to either dispel preconceived negative expectations by providing better than expected services or to merely live "down" to low expectations. The paradox is illustrated by customer comments that ranged from: "Since I was dealing with the government, I expected it would be bad, but it was wonderful," to negative experiences "...but considering it was a government office, it was to be expected."

Other customer comments revealed that many customers were unable to clearly distinguish services provided by NCSA with other DOT-provided information services (for example, customers referred to voice mail selections indicating the Auto Hotline service rather than ISB's single voice mail box). This, however, does not harm the veracity of the survey data results since customers' satisfaction with services is based upon their perception that services are provided by NCSA. Therefore, customer critiques and comments concerning their total experience with DOT must be considered.

One issue that should be investigated is how other DOT offices affect NCSA's ability to serve its customers well, specifically by providing an easy-to-use, single point of contact for information dissemination. DOT must seriously consider the impact of customer comments regarding the difficulties of "being bounced around" or "playing phone tag" before the customer is connected to the correct office or source of assistance. Over and over again customers complained: "It took five or six calls to reach the right person." "Nobody seemed to have any idea of who I should talk to. There was no live person, just a computer-generated operator. It took me a good solid week and a half to finally get to the person I needed." "It was a nightmare to get what I needed, no one knew where to refer me, and I had to play phone tag for about an hour."

## C. Data in Detail

### 1. Who are NCSA's customers?

NCSA's customers<sup>2</sup> tend to be for-profit enterprises (42.7%), such as private businesses, consultants, law firms, journalists, engineers, etc. Not-for-profit enterprises, such as associations, trade organizations, and universities, make up 20.8% of the customers, while 13.8% of the customers are individuals requesting information for themselves. Local, state, and federal government offices comprise 22.6% of NCSA's customer base, and of this percentage 8.8% are offices within or affiliated with DOT or other transportation-related office (e.g., traffic safety office).<sup>3</sup>

Geographically, there is an uneven distribution of requests by state.<sup>4</sup> NHTSA Region 3, the states among which include the District of Columbia, Virginia, and Maryland, submitted 28.2% of the requests; Region 5



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submitted 17.2%, and Region 4 submitted 13.6%. Individually, the states submitting the most frequent number of requests include: District of Columbia: 9.3%, California: 7.9%, Maryland: 7.9%, New York: 6.2%, and Virginia, 6.2%.

## ***2. How do customers place their requests?***

Most of NCSA's customers placed their requests by telephone (84.4%) and a few sent written requests by mail (6.9%) or fax (2.9%). The remaining customers came by the office in person or placed their requests by some other method (e.g., spoke to DOT personnel at a conference).<sup>5</sup>

Of those who placed their requests by telephone, 29.0% of the customers were not able to get through to NCSA on the first try. The most frequently cited reason<sup>6</sup> for the delay was being transferred to numerous personnel or calling back and forth with one or more personnel (42.4%). Customer comments included: "The person I was told I needed to talk to was on vacation and no one else could help me. It took me about 15 calls; it's so darn hard to find who to talk to," and "I got the 'run around' because nobody knew where to send me." Many customers complained about the process of "finding the right person" but were generally pleased with the eventual service: "I had a hard time finding the department I needed, then it was easy." Unfortunately, this indicates, within the agency, DOT's interdepartmental awareness of NCSA's services is not adequate. Instead of customers being directly referred to or connected to NCSA, customers had to endure "playing tag" to find the right resource. Similarly, 9.4% of the customers had called another outside agency or organization who then redirected the customer to call NCSA and 8.2% were not connected to the correct source and had to "try again."

This means 60% of customers who experienced trouble connecting to NCSA "on the first try" could be helped with better internal (agency-wide) and external (public) information regarding the availability of services. In a year with approximately 10,000 customers, this could prevent nearly 1,500 customers<sup>6</sup> annually from frustrating (and annoying) searches to find the right resource. Better internal and external information about NCSA services could also broaden the potential audience and increase the total number of new customers served by NCSA.

A NHTSA report recently addressed DOT's "strategic plan" to "expedite the availability of information to customers and partners"<sup>7</sup> and recommended the establishment of a single point of contact between the agency and the public it aims to serve. The negative experiences of the public, as recorded in this survey, in their efforts to get information from DOT reiterate the great need for more consolidated procedures to handle public requests.

## ***3. How do customers know NCSA services are available?***

Replies to the survey question, "How did you know this information was available?" indicate that customers are likely to become aware of the services offered by NCSA through informal routes.<sup>8</sup> One customer quipped, "A little bird told me," but his kidding reply is indicative of the hit-and-miss approach many customers used to find NCSA. A large number (29.9%) of customers responded that they "just knew" about the service, "did a little research," or just "guessed" that DOT would provide the kind of information they needed. Some searches were random, "I just assumed someone would have it so I started calling with the police department and did a lot of phone calling and finally found NCSA," explained one customer. Other customers were successful after a targeted search, "I knew DOT kept statistics. I went down a list of different highway organizations."

Another 36% of the customers were referred by another person: 18.6% knew by word-of-mouth references by colleagues, bosses, and other associates; 9% were redirected to NCSA by other organizations, with an additional 5.3% referred by DOT employees; and 3.1% were referred by librarians or researched in library reference materials. Many customers become aware of NCSA services through reading references or announcements in written materials (20.3%), such as DOT publications, newspaper articles, and other materials, such as car manuals, and nearly ten percent (9.9%) use the service regularly as a source of data and information.

When a separate interview question was asked (“Was this the first time you made a request for information from NCSA?”), 37.6% replied that they had used the service before,<sup>9</sup> of which 10.2% can be considered frequent users (four or more times in the past 12 months).<sup>10</sup> Interestingly, only 37.1% of those who were self-identified as using the service “regularly” were among the “frequent users” in the past 12 months.

#### **4. How do customers rate NCSA services relative to their expectations?**

Customers were first asked to evaluate NCSA’s “overall” performance relative to their (customers’) expectations. Overall, customers overwhelmingly rated NCSA services to have been “the same”, “somewhat better,” or “much better” than expected (90.5%), as illustrated in Figure 4, below.

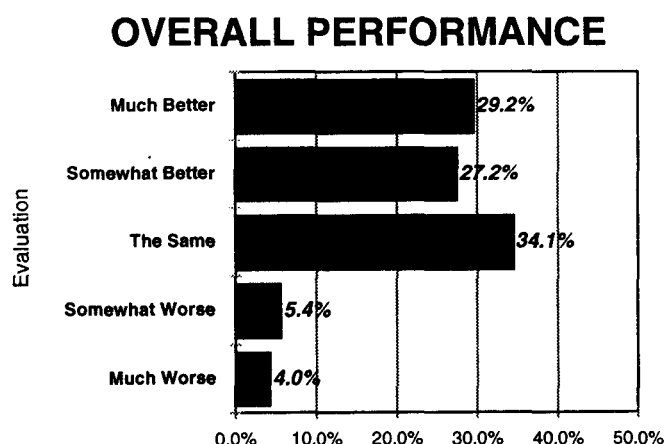


Figure 4.

Source: Q6A: ‘Overall, how would you rate the quality of services provided relative to your expectations?’

Customer evaluations are a *relative* measure of satisfaction with NCSA services as compared to their *expected* level of service. In other words, each customer’s evaluation of NCSA services may strongly depend on his preconceived notion of what kind of services would be given. As discussed earlier in this report, some 8.5% of the customers specifically commented on the low expectations they had prior to placing their requests. Of this subgroup (with low expectations), approximately 78% reported to have had a more positive experience with NCSA services contrary to their negative expectations.<sup>11</sup>

The following five interview questions were also asked regarding five specific factors that may have affected the customer's overall experience with NCSA:

1. How would you rate the timeliness of receiving your request relative to your expectations?
2. How would you rate the usefulness of the information you received relative to your expectations?
3. How would you rate the ease of placing your request relative to your expectations?
4. How would you rate the extent to which the information you received matched your request relative to your expectations?
5. How would you rate the amount of time it took in placing your request relative to your expectations?

In order to determine the factors that may affect customers' satisfaction with services, a regression analysis where overall customer satisfaction rating was treated as the dependent variable and specific factors were treated as independent variables was conducted. The *standardized regression coefficient* for each independent factor was used to estimate its influence on the overall satisfaction. The coefficient for each factor is shown below in Figure 5, "Importance." Figure 6, "Performance," shows the actual performance evaluation for each factor:

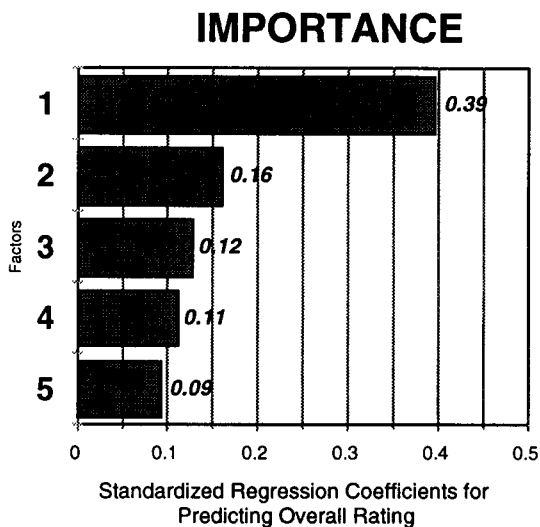


Figure 5.

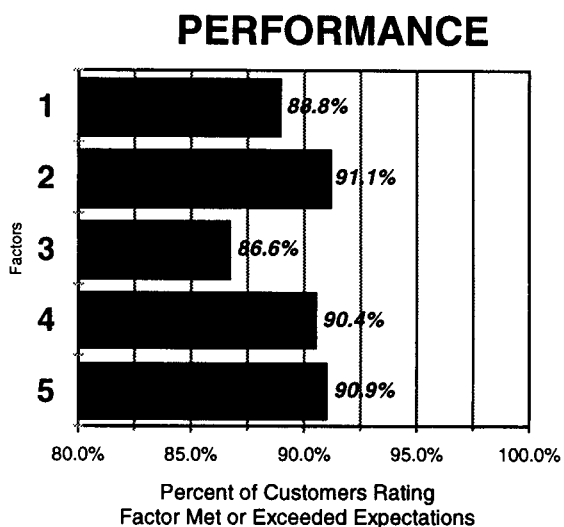


Figure 6.

FACTORS:      1. Timeliness of Receiving Request      4. Information Matching the Request  
                     2. Usefulness of Information                      5. Amount of Time to Place Request  
                     3. Ease of Placing Request

NOTE: Review of customer comments collected during interviews indicate there are other factors, that were not quantitatively measured, which may also affect overall satisfaction; such "other factors" have been indicated in this report.

Source: Q6A, Q7A, Q8A, Q9A, Q10A, and Q11A tabulated within 95% confidence interval  $\pm 5\%$ .

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### **a. "Timeliness of Receiving Request"**

As shown in the Figure 5 (above), the performance factor "timeliness of receiving request" ranked highest in its effect on the overall performance rating, followed by the remaining four factors in close sequence. This analysis indicates that the most important factor to NCSA customers is getting a response to their requests rapidly or in an appropriately timely fashion. Timeliness is relative to the customer's expectations, for example, customers said: "I expected something on the same day, and I couldn't get it when I needed it." "I ordered some information for a paper, but the information came after the due date for the paper." "I would have expected it would take several weeks, and I had the mailings within a week."

Of all customers who commented on the rapidity and timeliness of receiving a response (102 customers), 100% had rated the overall evaluation to be "the same", "somewhat better", or "much better" than their expectations.<sup>12</sup> Customers said: "It is very speedy, sometimes I receive the data within the hour." "Every time I called, they mailed me the information, and I had it within a week. If they couldn't send it right away they called me back with an ETA [estimated time of arrival]." "I would expect it to take a few weeks, and it would come before I expected. It's normally hard to deal with large agencies and corporations, but it was much easier than expected." "It happened so quickly, and I had expected it to be a long drawn-out situation."

On the other hand, of the customers who commented on the lack of timeliness of response (21 customers), 95.4% had rated the overall evaluation to be "the same", "somewhat worse" or "much worse" than their expectations.<sup>13</sup> Customers complained: "It took 18 months to respond to my written request!" "The Information was need in a timely manner, but it took much longer than they said it would take." "It took a long time for them to get back to me after I left a message on the answering machine [voice mail]." "Many materials aren't reprinted or in stock, or there was a late response in letting me know it was out of stock. It left me waiting."

As described, the analysis showed that "timeliness"<sup>14</sup> is the key factor of importance (standardized regression coefficient of 0.39) when evaluating the quality of NCSA services. As a whole, of all the customers surveyed 88.8% had rated the "timeliness of response" as "the same", "somewhat better", or "much better" than their expectations. Although this is a largely positive rating, the "timeliness" factor ranked second least positively among the five independent factors surveyed. In fact, the least "important" factor to customers (i.e., "amount of time to place request"<sup>15</sup> with a standardized regression coefficient of 0.09) ranked second (90.9%) in performance ratings of "the same", "somewhat better", or "much better" than their expectations.

### **b. "Usefulness of Information"**

As shown in Figures 5 and 6 (above), other than the "usefulness of information" factor, there is a reversal of performance relative to importance to customers. This indicates that NCSA should stress continually enhancing its ability to respond to customer requests quickly and in a timely fashion in order to serve its customers well. For example, the analysis does reveal that NCSA is currently providing an adequate quality of information relative to their customers expectations. The "usefulness of information"<sup>16</sup> ranked second in importance to customers and was rated most positively (91.1% rated "the same", "somewhat better", or "much better") in performance. Of all the customers who complimented the quality of data and information (62 customers), 100% had rated the overall performance "the same", "somewhat better", or "much better" than expected.<sup>17</sup> Comparatively, of all the customers who complained or commented negatively about the quality of data and information (17 customers), 94.1% had rated the overall performance "the same", "somewhat worse" or "much worse" than expected.<sup>18</sup> Whether or not the quality of information was what they expected,

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NCSA was able to “match” the information delivered to the customer’s request in such a way that met or exceeded expectations for 90.5% of the sample.<sup>19</sup>

Many customers were pleasantly surprised by the amount and quality of information available: “There was a lot more information than I ever hoped for. The packet was filled with information that I hadn’t requested, but was what I was looking for.” “The information was actually broken down by states and age groups...I was surprised they had it particularly when the states didn’t have it.” “I was impressed by how many subjects we got into, and how it is portrayed in charts and such.” “They really had an incredible amount of information for free.”

Other customers were disappointed in the lack of appropriate information or the quality of data, they said: “They did not have both pieces of information I needed, because one type of information I requested is not collected (they do not single out taxis from other kinds of cars).” “The information was overly grouped; some information was rolled into another data element, and I had trouble distinguishing the information” “The format of the data was incredibly difficult to use.” “They couldn’t answer my questions very well, and they didn’t have the data.”

### ***c. “Ease of Placing Request”***

Third in importance to customers was the ease of placing their request (standardized regression coefficient 0.12), but this factor ranked last with a performance rating of 86.6% (“the same”, “somewhat better”, or “much better” than expected).<sup>20</sup> Of all the customers who complained or commented negatively about the process or steps involved in placing their request, 94.1% had rated the overall performance “the same”, “somewhat worse” or “much worse” than expected.<sup>21</sup> Commonly cited complaints regarded the difficulty of finding the right office or person to talk to. Customers said: “They kept switching me around....very bureaucratic...not user friendly.” “Once you hook up, it’s very efficient, but it’s the hooking up that’s hard.” “Nobody knew who I should talk to, and I was passed from department to department.”

These are similar to the complaints of “playing telephone tag” mentioned earlier in this report. As stated, 29.0% of all calls are not successfully completed on the first try due to “playing tag”, busy signals, or referral problems, to name a few reasons identified by customers. In order to enhance NCSA customer services, concerted attention must be placed upon improving agency-wide advertisement and awareness of information services available. Customers should be promptly directed to the right source regardless of which DOT department first receives a customer call, but the survey comments show that customers are frequently re-routed to various departments before correctly reaching NCSA.

Furthermore, the customer comments reveal that an attentive, aware staff is integral to serving customers well. Qualitative data derived from the survey support this assumption. Of all customers who complimented staff performance (58 customers), 100% had rated overall performance “the same”, “somewhat better”, or “much better” than expectations.<sup>22</sup> Over and over, positive experience with an attentive staff solicited effusive compliments: “My request seemed very minuscule for such a big agency, but they made time to help me.” “The person I spoke to was very helpful ... we played phone tag for a while, but she was very diligent in returning my call. She was very helpful.” “She gave me extra stuff in addition to what I requested. She went that extra mile to give me the information I needed, and she made me aware of more information that was also available.” “I received really good personal attention. Some people went out of their way, and I was impressed with the effort to fulfill my request. I was very surprised despite the stereotype of the government worker.”

Of all the customers who rated the overall performance “much better than expected” (102 customers), the most frequently cited comment was regarding staff performance (33.3%), followed by timely receipt of request (28.4%) and quality of information (22.6%). Customer comments indicated that positive staff performance can affect a good overall experience despite deficiencies in data or other factors. Some customers explained: “I didn’t get exactly what I was hoping to get (it didn’t exist) ... but they pursued my request in a timely fashion and sent me a summary showing me what was available.” “I’d like to give high marks for service, but not for data.” “I’m glad they called me back, but I was disappointed they the couldn’t tell me where to find the information.”

5. What information do customers request?

The subject areas of customer requests<sup>23</sup> are categorized, as shown in Figure 7 (right), as a percentage of total requests (*total includes multiple responses*). There was a marked interest in various accident statistics (17.8%); such as causes of accidents, and types of accidents, etc. In addition, customers specifically requested statistics and information on injuries and fatalities (13.1%) or drinking and driving (9.1%). Another 10.4% of the requests regarded safety issues, such as crash tests of vehicles, automotive product recalls, and injury prevention information. Many customers (12.1%) required information regarding specific vehicle types, such as specific model cars, trucks, motorcycles, emergency vehicles, etc.

The majority of NCSA’s customers require traffic, transportation, and safety information in the form of data and statistics<sup>24</sup> (70.1%), and 18.1% request publications, brochures, or other written materials, including copies of laws, regulations, standards, or safety program literature. Whereas customers may have requested specific data or statistics, NCSA may have responded to the request in another format. For example, a brochure containing the requested statistics may have been given to the customer. A previous CCC analysis of NCSA services had indicated that approximately 65% to 75% of all requests are filled using pre-printed materials, such as Fact Sheets and the NHTSA annual reports.<sup>25</sup>

6. How was this information used?

The single most common use of information received from NCSA<sup>26</sup> is for information dissemination or education (29.4%). Brochures or publications are directly redistributed to the public or the data, statistics, and other information are used to support other informative materials, such as newspaper and magazine articles, safety programs, etc. A large percent of the customers are businesses or business persons who use the information in the conduct of their various work areas (subtotal 39.8%). Of all business-related uses, most notable area are applied information for business decisions (16.2%), law-related (11%), or for marketing and product development (6.4%) purposes. Individuals frequently use the information for personal purposes (13.1%), such as researching the purchase of a new car, writing student papers, or just “to know.”

Types of Information Requested		
Type	Frequency	Percent
Accidents	84	17.8%
Age	9	1.9%
Alcohol	43	9.1%
Injuries	62	13.1%
Publications	31	6.6%
Restraints	32	6.8%
Safety	49	10.4%
System	18	3.8%
Vehicles	57	12.1%
General/Other	63	13.3%
TOTAL	472	100.9%

Figure 7.

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## **7. How do customers receive information?**

Responses to requests<sup>27</sup> are most frequently mailed (59.9%) to customers, while others are either given over the phone (17.5%) or faxed (15.3%) to the customer. According to customer responses, 5.6% of the requests were never fulfilled and no response was ever received, and the remaining 1.7% could not remember by what method the information was received.

When asked, "How long did it take to receive your request?" customers who could remember replied that NCSA was able to deliver their responses usually within one week (69.4%). Of the total responses 22.5% responded that the information was provided on the same day or the next day, and 15.5% within two days.<sup>28</sup>

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## IV. Conclusion

As shown by the regression analysis to determine the predictive effect of the five independent factors upon customers' overall satisfaction with NCSA services, NCSA should continue its efforts to improve the following services in order of importance to its customers:

- Respond to customer inquiries and requests in a timely manner.
- Provide relevant, useful information with adequate depth and breadth of data.
- Enable customers to contact NCSA and place orders with ease and minimal confusion.
- Insure that requests are accurately recorded so that what the customer requests is what the customer receives.
- Avoid extending the amount of time necessary to place a request.

### A. Promote awareness of NCSA services.

Awareness of NCSA services needs to be improved both internally and in the general public. NCSA customers are overwhelmingly satisfied with its performance of services, but the associated difficulties or disorganization of finding the correct source of information diminishes customer satisfaction with the overall process. As this report shows, 29.0% of NCSA customers were not been able to contact NCSA "on the first try." The known reasons include: being transferred to numerous personnel, calling back and forth with one or more personnel, or calling another outside agency or organization who then redirected the customer to NCSA. This could potentially affect up to 1,500 customers each year.

Of primary importance is to educate DOT employees, especially telephone operators or other staff responsible interfacing with the public, so that once customers contact DOT for information, all callers can be quickly and accurately transferred or referred to NCSA (or the determined "single point of contact").

- DOT employees should direct all inquiries regarding traffic-related *statistical* information to NCSA/ISB.

Business and industry seem to be aware of NCSA services from repeated use, and associates frequently use NCSA services based on "word of mouth" references. Informative and promotional materials are often shared among associates, therefore, all materials distributed to business and industry should contain information regarding the availability of NCSA services so that accurate information on using NCSA services can be passed on.

In addition, efforts to reach a broader audience should be initiated. The analysis showed that over half (59.9%) of all callers are first time callers who most often use informal methods to find the source of information they desire. These informal methods often lead to calling many places in search of NCSA; many customers did not know NCSA provided statistical services or they "guessed" traffic-related information would be available by calling their local police department or DOT office. Public information programs to educate state and local traffic-related agencies, as well as libraries, should be considered.

More prominent advertisement of NCSA/ISB's telephone number should be placed on all NHTSA publications and printed materials, as well as clearly identifying the office in DOT's and other government telephone/service directories. At present, all NHTSA publications promote the Auto Safety Hotline number prominently, but the NCSA/ISB number is less clearly promoted. Furthermore, the potential confusion in distinguishing the two services is likely; recall that many customers interviewed for this survey could not distinguish the services they



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had used. In the future, publications and other printed materials should present the Auto Safety Hotline and the NCSA statistical services (provided by the Information Services Branch) with equal prominence and clear distinction between their functions. For example:

- NCSA Information Services Branch (202) 366-4198, Fax: (202) 366-7078  
To obtain traffic-related statistical information: publications, documents, and data.
- NHTSA Auto Safety Hotline (202) 366-0123 or 1-800-424-9393  
To report safety-related automotive problems or to receive vehicle safety and recall information.

As noted above, all request fulfillments should be sent out with a cover letter with a clearly identifiable design to indicate the office that provided the services, as well as informative information on all types of services that are available. For example:

- Letter of fulfillment with prominent NCSA/ISB logo and information should be enclosed in all mailed materials, including an informative sheet describing all services available from ISB, the various methods of obtaining information (e.g., fax-on-demand, voice mail order placement, internet access, etc.), and order form.
- Coversheets with prominent NCSA/ISB logo and information should be used for all faxable information.

These “hardcopy” materials are useful in educating customers about the range of services available, and establishing clear “product identification.” Furthermore, these items can be easily distributed to other people and work as “word of mouth” advertisement for the services. All these efforts should function to reduce the number of customers who fail to reach NCSA on the first try, as well as increase the number of customers NCSA can serve.

Finally, the current DOT “Telephone Directory” does not include the Information Services Branch in its listing of “Information Services”. The NHTSA Technical Reference Division is listed, however, Information Services Branch provides a distinctly different statistical service and should be separately identified as “NHTSA Statistical Information and Publications.”

Better publicity and more wide-spread advertisement of NCSA services must be promoted to encourage customers to come directly to the source of information, thus circumventing any random searches which may delay receipt of the desired information. This problem, as shown in this report, is a significant factor in determining the overall satisfaction of the customer. By empowering the customer with the way of getting the information he needs, NCSA is better able to control the processes needed to serve its customers well.

#### **B. Track all requests to ensure timely response to all requests.**

Timeliness of response is dependent upon being able to organize and track all customer requests. Two percent of all customers said that they had to call more than once to receive a response to their requests<sup>6</sup>, and the analysis shows that at least 5.6% of the sample surveyed never received a response to their requests<sup>27</sup>. In other words, it can be estimated that each year, 7.6% or approximately 760 customer requests could potentially go ignored or not fulfilled after an initial request is placed. Whether the cause of this oversight is NCSA’s failure to respond to the request, customer incorrectly placing the request, loss of request

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by mail, or other reason, better tracking of all requests can minimize the number of customers who do not receive a reply to their requests.

Effective tracking has multiple benefits, first among which is to enhance NCSA's ability to quickly receive customer requests, minimize requests "falling through the cracks," and to aid the timely fulfillment of each request. A properly designed tracking system would allow NCSA to identify delinquent or overlooked requests so that such situations can be mitigated or notifications of problems reported to the customers.

The customer comments indicated that despite some problems in the fulfillment of requests, attentive service by staff members compensates for deficiencies in timeliness or quality of data. In addition, the tracking system can speed response time by automating certain time-consuming tasks such as faxing printed documents (by automating the fax processes through the tracking system), routing assignments, printing labels, searching for delayed customer requests, and reducing paper shuffle and need to file hardcopy notes.

Secondly, a tracking system would enable NCSA to objectively measure the total number and types of customers it serves and the type of information of most interest and use to the public. The trends in customer profiles as well as statistical information requested can help NCSA identify new areas of research, expand the depth or breadth of topics of investigation, and target audiences that demonstrate strong interest in the information available or audiences that are chronically under-represented as customers. Not only can the statistical data be improved, but the way NCSA's services are provided can change as the customer trends indicate (such as providing more information via internet).

Lastly, NCSA performance can be better measured. The number of requests fulfilled, the timeliness of fulfillment, backlogs and gains in performance, and programmatic weak points can be identified with the metrics provided by the tracking system. Individual and overall staff performance can be quantitatively measured. As stated earlier, NCSA had kept records of only 2,900 requests fulfilled of the estimated 10,000 requests fulfilled each year. Better status reports of NCSA work loads and customer information needs will help NCSA serve its customers more effectively.

## ENDNOTES

NOTE: In the following tabulations, totals may not equal the sample size (n = 354) due to "no reply", "do not remember" or "not applicable" responses to interview questions.

1. Qexpx: Coded from customer comments.

Qexpx	Frequency	Percent	
content	62	17.5	positive about content, quality of information, etc.
data	17	4.8	negative about content, bad quality of information, etc.
fast	102	28.8	positive about speed of response, process, etc.
high	3	0.8	specifically stated had initial high expectations
less	7	2.0	specifically stated was surprised by positive experience
low	23	6.5	specifically stated had low expect. from government service
norespon	11	3.1	no response/reply was ever provided, never received info
process	17	4.8	negative about the process of placing or receiving info
staff	58	16.4	positive about services provided by staff
staffbad	1	0.3	negative about services provided by staff
time	22	6.2	negative about slowness, delayed receipt of info, etc.
no comment	31	8.8	no additional comments provided
TOTAL	354	100.0	

2. Q15x: 'What type of organization are you (they) affiliated with?'

q15x	Frequency	Percent	
advertis	6	1.7	advertising, marketing, etc.
auto	35	9.9	automotive-related products, industry
engineer	10	2.8	engineering
insuranc	13	3.7	insurance industry
law	28	7.9	law firm, expert witnesses
media	19	5.4	publishing, newspapers, newsletters, tv, etc.
private	40	11.3	unspecified business enterprise
FOR PROFIT		42.7	
govt	80	22.6	federal, state, local government office
advocacy	38	10.7	association, trade, lobbying, promotion, etc.
edu	1	0.3	university, instructors, etc.
health	9	2.5	health, medical-related organization
univ	26	7.3	university, instructors, etc.
NOT-FOR-PROFIT		20.8	
indiv	49	13.8	individual citizen
TOTAL	354	100.0	

3. Q14x: 'Who was the primary user of this information?'

Q14X	Frequency	Percent	
assc	33	9.3	association, trade organization, etc.
business	95	26.8	consultant, marketing, etc.
dot	31	8.8	federal, state, local, quasi-gov't trans/traffic agency
edu	42	11.9	university professors, instructors, students
govt	35	9.9	fed., state, local government office (other than DOT)
insuranc	14	4.0	insurance industry
law	27	7.6	attorney, expert witness, etc.
med	9	2.5	physician medical research, etc.
personal	31	8.8	individual citizens for own use
police	13	3.7	police officer, fire fighter, emergency medical personnel
writer	21	5.9	author, journalist, media personnel, etc.
x	3	0.8	unspecified/undetermined
TOTAL	354	100.0	

4. Q16B: 'Where is your organization (are you) located?'

Q16B	Frequency	Percent
AK	3	0.8
AL	5	1.4
AZ	2	0.6
CA	28	7.9
CN	2	0.6
CO	9	2.5
CT	7	2.0
DC	33	9.3
DE	3	0.8
FL	14	4.0
GA	5	1.4
IA	1	0.3
ID	1	0.3
IL	16	4.5
IN	2	0.6
KS	4	1.1
KY	7	2.0
LA	5	1.4
MA	9	2.5
MD	28	7.9
MI	17	4.8
MN	7	2.0
MO	5	1.4
MS	2	0.6
NC	7	2.0
ND	1	0.3
NH	2	0.6
NJ	9	2.5
NM	1	0.3
NY	22	6.2
OH	12	3.4
OK	1	0.3
OR	5	1.4
PA	11	3.1
TN	8	2.3
TX	8	2.3
UT	4	1.1
VA	22	6.2
WA	3	0.8
WI	7	2.0
WV	3	0.8
WY	3	0.8
ZZ*	10	2.8
TOTAL	354	100.0

Q16B (regrouped into NHTSA Regions)

	Frequency	Percent	
REG_01	18	5.1	CT, ME, MA, NH, RI, VT
REG_02	31	8.8	NJ, NY
REG_03	100	28.2	DE, DC, MD, PA, VA, WV
REG_04	48	13.6	AL, FL, GA, KY, MS, NC, SC, TN
REG_05	61	17.2	IL, IN, MI, MN, OH, WI
REG_06	15	4.2	AR, LA, NM, OK, TX
REG_07	10	2.8	IA, KS, MO, NE
REG_08	17	4.8	CO, MT, ND, SD, UT, WY
REG_09	30	8.5	AZ, CA, HI, NE
REG_10	12	3.4	AK, ID, OR, WA
Canada	2	0.6	CN
Unknown*	10	2.8	ZZ
TOTAL	354	100.0	

\*may or may not include American Samoa, Puerto Rico, Virgin Islands, Guam, Indian Nation, or other U.S. territory.

5. Q1: 'How did you make your request for information?'

Q1	Frequency	Percent
telephone	293	84.4
fax	10	2.9
letter	24	6.9
visit office	10	2.9
other	10	2.9
TOTAL	347	100.0

6. Q2B & Q2Bx: 'Why did you have to try again?'

	Frequency	Percent	
busy	10	11.8	line was busy
time	1	1.2	took too much time
again	7	8.2	called numerous times to get response (2% of 354)
connect	7	8.2	never connected to correct point
ref	8	9.4	directed to call another number
tag	36	42.4	passed to many points, many transfers, etc.
vm	16	18.8	left message on voice mail
TOTAL	85	100.0	

NOTE: 293 surveyed customers placed their requests by telephone. Of these customers, 180 customers replied "yes" they were able to "get through to NCSA on the first try," of the remaining customers, 78 said "no", and 35 could not recall whether or not they did. By examining the open-ended responses of the 35 customers, 7 could be recategorized as "no" (total 85). Therefore, 29% of customers who place their request by telephone are did not get through to NCSA on the first try ( $85/293 = .290$ ).

Assuming 10,000 requests are received annually and 84.4% are received by telephone (8,440), each year 2,448 customers could be experiencing difficulties contacting NCSA ( $8,440 \times .29 = 2,448$ ). Of the problems individually cited above, "connect," "ref," and "tag" was cited 60% of these customers. By improving internal and external awareness efforts, e.g., public advertisement, employee training, etc., DOT could potentially prevent nearly 1,500 customers from experiencing delays contacting NCSA ( $2,448 \times .60 = 1,469$ ).

7. "Strategic Plan," DOT HS 808 181, DOT/NHTSA, Strategic Planning Division, NPP-11, November, 1994.

8. Q5x: How did you know this information was available?

Q5x	Frequency	Percent	
conf	4	1.1	at a conference, workshop, etc.
dot	15	4.2	work for/at DOT or transportation organization
guess	32	9.0	based on assumption
iq	74	20.9	knew specifically to call source or figured out
lib	11	3.1	library reference material, librarian, etc.
online	2	0.6	online
read	72	20.3	in publication, newspaper article, other readable material
redirect	32	9.0	referred or redirected by another org/person to source
tv	1	0.3	on television
user	35	9.9	regular/repeat user of services
word	66	18.6	word of mouth
no reply	10	2.8	no reply
TOTAL	354	100.0	

9. Q18: 'Was this the first time you made a request for information from NCSA?'

Q19	Frequency	Percent
yes	212	59.9
no	133	37.6
no reply	9	2.5
TOTAL	354	100.0

10. Q19: 'In the past 12 months, how many times have you made a request for information?'

Q19	Frequency	Percent
1	30	8.5
2	22	6.2
3	23	6.5
4	17	4.8
5	5	1.4
6	7	2.0
8	2	0.6
9	3	0.8
10	4	1.1
12	6	1.7
15	1	0.3
20	2	0.6
25	2	0.6
50	2	0.6
300	1	0.3
999	1	0.3
none/no reply	226	63.8
TOTAL	354	100.0

11. Overall evaluation for customers who commented on 'low expectations from government services' (Q6a\*Qexp=low).

low	frequency	percent
much better	12	52.1
somewhat better	6	26.1
the same	4	17.4
somewhat worse	0	0.0
much worse	1	4.4
TOTAL	23	100.0

12. Overall evaluation for customers who commented on 'rapidity/timeliness of response' (Q6a\*Qexpx=fast).

fast	frequency	percent
much better	29	28.4
somewhat better	37	36.3
the same	36	35.3
somewhat worse	0	0.0
much worse	0	0.0
TOTAL	102	100.0

13. Overall evaluation for customers who commented on 'delay/lack of timeliness of response' (Q6a\*Qexpx=time).

time	frequency	percent
much better	0	0.0
somewhat better	1	4.5
the same	13	59.1
somewhat worse	6	27.3
much worse	2	9.1
TOTAL	22	100.0

14. Q7a: 'How would you rate the timeliness of receiving your request relative to your expectations?'

Q7a	frequency	percent
much better	111	35.2
somewhat better	83	26.3
the same	86	27.3
somewhat worse	24	7.6
much worse	11	3.5
TOTAL	315	100.0

15. Q11a: 'How would you rate the time it took in placing your request relative to your expectations?'

Q11a	frequency	percent
much better	85	25.8
somewhat better	72	21.9
the same	142	43.2
somewhat worse	19	5.8
much worse	11	3.3
TOTAL	329	100.0

16. Q9a: 'How would you rate the usefulness information you received relative to your expectations?'

Q9a	frequency	percent
much better	56	18.5
somewhat better	68	22.4
the same	152	50.2
somewhat worse	20	6.6
much worse	7	2.3
TOTAL	303	100.0

17. Overall evaluation for customers who commented on 'good content/information' (Q6a\*Qexp=content).

content	frequency	percent
much better	23	37.1
somewhat better	22	35.5
the same	17	27.4
somewhat worse	0	0.0
much worse	0	0.0
TOTAL	62	100.0

18. Overall evaluation for customers who commented on 'bad data/information' (Q6a\*Qexp=data).

data	frequency	percent
much better	0	0.0
somewhat better	1	5.9
the same	11	64.7
somewhat worse	5	29.4
much worse	0	0.0
TOTAL	17	100.0

19. Q8a: 'How would you rate the extent to which the information you received matched your request relative to your expectations?'

Q10a	frequency	percent
much better	55	17.5
somewhat better	72	22.9
the same	157	50.0
somewhat worse	23	7.3
much worse	7	2.2
TOTAL	314	100.0

20. Q10a: 'How would you rate the ease of placing your request relative to your expectations?'

Q10a	frequency	percent
much better	88	26.2
somewhat better	72	21.4
the same	131	39.0
somewhat worse	35	10.4
much worse	10	3.0
TOTAL	336	100.0

21. Overall evaluation for customers who commented on 'bad/difficult process' (Q6a\*Qexp=process).

process	frequency	percent
much better	0	0.0
somewhat better	1	5.9
the same	8	47.1
somewhat worse	5	29.4
much worse	3	17.6
TOTAL	17	100.0

22. Overall evaluation for customers who commented on 'good staff service' (Q6a\*Qexp=staff).

staff	frequency	percent
much better	34	58.6
somewhat better	20	34.5
the same	4	6.9
somewhat worse	0	0.0
much worse	0	0.0
TOTAL	58	100.0

23. Q3: 'What information did you request?' coded in Q3x1 and Q3x2.



Q3	Frequency	Percent	
acc	44		accident data
cause	30		various parameters & cause of accidents
crash	6		crash statistics
driver	4		driver statistics
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ACCIDENTS	84	17.8	
age	2		age-related
eld	4		elderly drivers
youth	3		youthful drivers
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AGE	9	1.9	
alc	43		alcohol-related
-----			
ALCOHOL	43	9.1	
injury	7		injury-related
fatal	54		fatalities
occ	1		occupant
-----			
INJURIES	62	13.1	
pub	31		publication, brochures (unspecified)
-----			
PUBLICATION	31	6.6	
air	9		airbag
belt	13		seatbelt
child	8		child seat
restrain	2		restraint device
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RESTRAINTS	32	6.8	
brake	3		brakes
recall	6		product/vehicle recall
safety	28		safety-related
speed	2		speeding, speed limit
test	9		crash tests, safety tests, etc.
tire	1		tire
-----			
SAFETY	49	10.4	
fars	12		FARS
ges	1		GES
nass	5		NASS
-----			
SYSTEM	18	3.8	
bike	3		bicycle
bus	5		bus
comm	8		commercial vehicle
em	4		emergency vehicle
mc	9		motorcycle
truck	13		truck
veh	15		vehicle
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VEHICLES	15	12.1	
<continued>			

airport	1	airport
bridge	2	bridge
crime	2	vehicle-related crime
gen	25	general request
ped	8	pedestrian
state	16	state-level
traf	9	roadway / traffic information

GENERAL/OTHER	63	13.3
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do not remember	24	5.1
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TOTAL*	472	100.9
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\*Total exceed 354 due to multiple responses and exceeds 100% due to rounding up.

24. Q3: 'What information did you request?'

Q3	Frequency	Percent	
data	8	2.3	data files & tapes
pub	64	18.1	publications, brochures, other written materials
stats	240	67.8	statistics, quantitative information, etc.
video	1	0.3	video tape
x	41	11.6	unable to categorize
TOTAL	354	100.0	

25. CCC deliverable report, "Subtask A: Analysis of Current Interfacing Methods," for NHTSA contract number DTNH22-93-D-07192, September 1, 1994, p. ii.

26. Q17x: 'How was this information used?'

Q17x	Frequency	Percent	
applied	53	16.2	analysis for business decision, etc.
case	36	11.0	law suit, court trial testimony, etc.
marketin	21	6.4	market research, product development, etc.
proposal	9	2.8	contract bid, business proposal, venture, etc.
report	11	3.4	internal business reports, position papers, etc.
BUSINESS	130	39.8	
buy	8	2.4	buyers of new/used cars, products, etc.
know	13	4.0	personal need to know
student	22	6.7	student papers
PERSONAL	43	13.1	
info	96	29.4	distribution to others through education, literature, etc.
policy	21	6.4	legislation, lobbying, rules planning, etc.
research	37	11.3	scholarly/technical research
PUBLIC	159	47.1	

27. Q4: 'How did you receive the information you requested?'

Q4	Frequency	Percent
verbal	62	17.5
fax	54	15.3
mail	212	59.9
never receive	20	5.6
do not remember	6	1.7
TOTAL	354	100.0

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28. Q12: 'How long did it take to receive your request?'

Q12	Frequency	Percent
one day	62	22.5
1-2 days	42	15.3
3-7 days	87	31.6
1-2 weeks	30	10.9
more than 2 wks	54	19.6
TOTAL	275	100.0